

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (canceled)

1 Claim 2 (currently amended): A solid-state image sensing  
2 apparatus ~~according to claim 1~~ comprising:  
3 an effective signal photoelectric conversion unit to  
4 receive object light;  
5 a light-shielded reference signal photoelectric  
6 conversion unit to output an optical black level equivalent  
7 signal; and  
8 a noise suppressing circuit which suppresses a reset  
9 variation for each pixel,  
10 wherein in addition to an output from the effective  
11 signal photoelectric conversion unit, one of an output from  
12 the reference signal photoelectric conversion unit and a  
13 predetermined reference voltage is selectively output, and  
14 wherein switching between the predetermined  
15 reference voltage and the output from the reference signal  
16 photoelectric conversion unit is done by changing a driving  
17 signal of the noise suppressing circuit.

1 Claim 3 (currently amended): A solid-state image sensing  
2 apparatus according to claim 12, wherein the predetermined  
3 reference voltage is a voltage to be applied to the reference  
4 signal photoelectric conversion unit.

1 Claim 4 (currently amended): A solid-state image sensing  
2 apparatus according to claim 12, wherein the noise suppressing  
3 circuit includes a switch unit which switches at least between

4 the predetermined reference voltage and the output from the  
5 reference signal photoelectric conversion unit, and  
6 in which whether an output signal from the reference  
7 signal photoelectric conversion unit can be read out ~~can~~ and be  
8 selected.

Claim 5 (canceled)

1 Claim 6 (currently amended): A solid-state image sensing  
2 apparatus ~~according to claim 1~~ comprising:  
3 an effective signal photoelectric conversion unit to  
4 receive object light;  
5 a light-shielded reference signal photoelectric  
6 conversion unit to output an optical black level equivalent  
7 signal; and  
8 a noise suppressing circuit which suppresses a reset  
9 variation for each pixel,  
10 wherein in addition to an output from the effective  
11 signal photoelectric conversion unit, one of an output from  
12 the reference signal photoelectric conversion unit and a  
13 predetermined reference voltage is selectively output,  
14 wherein the noise suppressing circuit has at least a  
15 clamp capacitor, a sample-and-hold switch, a clamp switch, and  
16 a sample-and-hold capacitor, which are connected to each of  
17 vertical signal lines extending from the effective signal  
18 photoelectric conversion unit and the reference signal  
19 photoelectric conversion unit, and  
20 in which one of the output from the reference signal  
21 photoelectric conversion unit and the predetermined reference  
22 voltage is held in the sample-and-hold capacitor for the  
23 reference signal photoelectric conversion unit and output by  
24 driving and controlling the sample-and-hold switch and the

25 clamp switch of the vertical signal lines extending from the  
26 reference signal photoelectric conversion unit.

1 Claim 7 (currently amended): A solid-state image sensing  
2 apparatus ~~according to claim 1~~ comprising:  
3 an effective signal photoelectric conversion unit to  
4 receive object light;  
5 a light-shielded reference signal photoelectric  
6 conversion unit to output an optical black level equivalent  
7 signal; and  
8 a noise suppressing circuit which suppresses a reset  
9 variation for each pixel,  
10 wherein in addition to an output from the effective  
11 signal photoelectric conversion unit, one of an output from  
12 the reference signal photoelectric conversion unit and a  
13 predetermined reference voltage is selectively output,  
14 wherein the noise suppressing circuit has at least a  
15 reset signal capacitor, a reset signal switch, an optical  
16 signal capacitor, and an optical signal switch, which are  
17 connected to each of vertical signal lines extending from the  
18 effective signal photoelectric conversion unit and the  
19 reference signal photoelectric conversion unit, and  
20 in which in a predetermined case, both of the reset  
21 signal capacitor and the optical signal capacitor are caused  
22 to hold reset signal components and output the reset signal  
23 components by driving and controlling the reset signal switch  
24 and the optical signal switch.

1 Claim 8 (original): A solid-state image sensing apparatus  
2 according to claim 7, wherein the predetermined case is a case  
3 in which an incident light amount of the object light is  
4 large.

1 Claim 9 (currently amended): A solid-state image sensing  
2 apparatus ~~according to claim 1~~ comprising:  
3 an effective signal photoelectric conversion unit to  
4 receive object light;  
5 a light-shielded reference signal photoelectric  
6 conversion unit to output an optical black level equivalent  
7 signal; and  
8 a noise suppressing circuit which suppresses a reset  
9 variation for each pixel,  
10 wherein in addition to an output from the effective  
11 signal photoelectric conversion unit, one of an output from  
12 the reference signal photoelectric conversion unit and a  
13 predetermined reference voltage is selectively output,  
14 wherein the noise suppressing circuit has at least a  
15 capacitor connected to each of vertical signal lines extending  
16 from the effective signal photoelectric conversion unit and  
17 the reference signal photoelectric conversion unit,  
18 a first power supply line which supplies a power to  
19 the effective signal photoelectric conversion unit, and  
20 a second power supply line which supplies a power to  
21 the reference signal photoelectric conversion unit, and  
22 in which in a predetermined case, a potential of a  
23 vertical signal line extending from the reference signal  
24 photoelectric conversion unit is fixed to GND by the second  
25 power supply line, and the predetermined reference voltage is  
26 held in the capacitor extending from the reference signal  
27 photoelectric conversion unit and output.

1 Claim 10 (original): A solid-state image sensing apparatus  
2 according to claim 9, wherein the predetermined case is a case

3 in which an incident light amount of the object light is  
4 large.

1 Claim 11 (currently amended): A solid-state image sensing  
2 apparatus ~~according to claim 1~~ comprising:

3 an effective signal photoelectric conversion unit to  
4 receive object light;

5 a light-shielded reference signal photoelectric  
6 conversion unit to output an optical black level equivalent  
7 signal; and

8 a noise suppressing circuit which suppresses a reset  
9 variation for each pixel,

10 wherein in addition to an output from the effective  
11 signal photoelectric conversion unit, one of an output from  
12 the reference signal photoelectric conversion unit and a  
13 predetermined reference voltage is selectively output,

14 which further comprises an output amplifier which  
15 amplifies an output from the noise suppressing circuit, and

16 in which a signal output level of the effective  
17 signal photoelectric conversion unit is corrected selectively  
18 on the basis of one of a pixel signal component of the  
19 reference signal photoelectric conversion unit and a reset  
20 level of the output amplifier, which is different from the  
21 signal component.

Claim 12 (canceled)